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| 10/532,699 | 04/26/2005 | Taro Takahashi | 155-05 | 8736 |

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| EXAMINER |
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GEORGE, PATRICIA ANN

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| ART UNIT | PAPER NUMBER |
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1794

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|---------------------------------------|---|--|
| Office Action Summary | Application No. 10/532,699 | Applicant(s) TAKAHASHI ET AL. | |
| | Examiner Patricia A. George | Art Unit 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/15/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Declaration Under 37 CFR 1.132

The co-inventor's time and experience is appreciated, and has been considered and filed. Respectfully, the comparative working example does not appear to show unexpected results over the type of pectin provided by the references as applied in the previous and present rejection, and therefore does not appear to support an argument toward a finding of unexpected results.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 21 and all claims depending on it, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: active method steps which recite how and where the claimed additive is used. For example, there is nothing in the claim which identifies what the additive is added to, or how the additive is added.

Further, the claim is unclear because it lacks a transitional phrase. Claim 21 recites "A method of enhancing loosening properties of cooked rice by." The closest

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term to a transitional phrase appears to be “by”, which can be interpreted as “whereby” and therefore the following step of “adding” is optional, and therefore it appears as if nothing is being claimed. This is very confusing and applicant is encouraged to read the section of the MPEP which discusses transitional phrase: MPEP 2111.03 [R-3] Transitional Phrases.

Claim 21 is also indefinite because it comprises the indefinite phrase “enhancing loosening property”. This phrase is indefinite for a variety of reasons: 1) The term “enhancing” is a relative term which renders the phrase indefinite. The term “enhancing” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention, because no point of relativity is provided that illustrates the degree of enhancement that occurs. 2) The term “loosening” is also a relative term which renders the phrase indefinite. The term “loosening” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention, because no point of relativity is provided that illustrates the degree of loosening that occurs.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-26 rejected under 35 U.S.C. 103(a) as being unpatentable over Lapre, in view of the combination of Takahashi, Sorensen, and Knight.

Markovic is provided as evidence.

With regard to the prior art, the phrase “by adding” encompasses comprising adding.

Lapre teaches a cooked and hydrated carbohydrate core, such as rice, is coated with a polysaccharide coating, comprising pectin, which provides the benefit of reducing the glycemic response to make improvements such as: treatment of diabetes, hypoglycemia, and glycogen storage disease, and suppressing appetite and assisting the performance of sustained physical activity. Lapre teaches the coating is crosslinked (i.e. enhanced) so that it will remain on the surface of the carbohydrate, because polysaccharides tend to be water soluble (i.e. aqueous). See abstract and summary sections.

Lapre teaches to use crosslinkable polysaccharides to coat starch, by adding one or more cations, such as edible salts, to effect the crosslinking during cooking in an aqueous medium. See reference Summary section. Once the coating is crosslinked in an aqueous medium, the polysaccharides are taught to be “preferably at least essentially insoluble, or at least substantially insoluble, in boiling water”.

The use of polysaccharides which are “at least essentially insoluble, or at least substantially insoluble”, reads on the polysaccharides comprising a portion which is inherently soluble.

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It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of using polysaccharides to coat starches, as Lapre, to include a step which recites the polysaccharides comprise insoluble polysaccharides, because Lapre teaches the polysaccharides are only partially insoluble, which means that the remaining portion is inherently soluble. Further, since Lapre teaches the starch is cooked in boiling water, and the crosslinking occurs in the boiling water, the effect of the crosslinking (i.e. solublizing) occurs after the polysaccharide is added to the starch.

Lapre teaches one or more water-soluble polysaccharides may be used, in combination, including: pectin and pectinic acid, which reads on water-soluble acidic polysaccharides. See bottom of column 7.

Lapre is silent as to the water-soluble acidic polysaccharides derived from a white potato that includes uronic acids as constituent sugars, as in claim 21.

Takahashi teaches many benefits from using pectin derived from white potatoes, such as: pectin derived from white potatoes in hot water (i.e. water soluble), is known to have a function which can stabilize proteinic distribution, see abstract and paragraph 0019; pectin derived from white potatoes has the benefit of maintaining its state even after heat is applied, see "Effect of the Invention"; the pectin derived from white potatoes is stronger because the starch that is contaminated during the extraction process, is desirably removed, see paragraph 0018; and the extraction temperature of

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pectin from white potatoes is carried out in a range that speeds up extraction and therefore provides an economical advantage because the extraction can be managed in a short time, see paragraph 0017.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of a quality enhancer for cooked rice, as Lapre, to include pectin that is derived from any source known to be functional, including the white potatoes, as claimed, because Takahashi teaches many benefits in using the type of pectin derived from white potatoes, including that the pectin from white potatoes is stronger, and that it is more economical to make because the production time can be reduced due to having the capability of using increased temperatures. One of skill would be motivated to use a pectin that is stronger and is economically made, because its use would provide costs savings, such as reduced shipping cost for less volume (i.e. a stronger product), and reduced manufacturing cost, a certain benefit.

Lapre is silent as to the specifically claimed quantity of uronic acids in the portion of water-soluble acidic polysaccharides, as in claims 21-23.

Markovic provides evidence that pectin consists of a linear chain of α -(1-4)-linked D-galacturonic acid (i.e. an uronic acid). See the 2nd paragraph of the introduction.

Therefore, the pectin in the modified invention of Lapre inherently has a quantity of uronic acid.

Lapre is silent as to the specifically claimed quantity of uronic acid in the water-soluble acidic polysaccharides, from the pectin derived from white potatoes, as claimed,

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however, a quantity of uronic acid inherently exists in the said pectin of the modified invention of Lapre.

Sorensen teaches that pectin derived from potatoes is known to have quantities of uronic acids, and that the quantity of the uronic acid is dependent on the type of plant that the potatoes are from. See page 7641, starting FTIR Spectroscopy and Figure 1c.

Further it is known that the amount of uronic acid in potatoes is a result that is effected by the variation of the dry weight of the potato tissue (i.e. is a result effective variable). See abstract of Knight *J. Exp. Bot.* 1961; 12: 13-26.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the quantity of uronic acids of the white potato - derived water-soluble acidic polysaccharides, as the modified teaching of Lapre, to include the claimed quantities of uronic acids, because Sorenson (as evidenced Markovic) teaches the quantities of the level of pectin (uronic acid) in potatoes are known to exist and will vary based on the type of potato, and further Knight teaches it is known that the amount of uric acid in potatoes is a result that is effected by the variation of the dry weight of the potato tissue and therefore the skill to modify the amount of uronic acid in the pectin derived from potatoes is also known to be adjustable and within the skill of one in the art.

Further, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Furthermore, it is known in the art that the use of polysaccharides that contain uronic acid residues are beneficial for encapsulating

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solids when used in gluten compositions and therefore the art recognizes the use of low levels of uronic acid (e.g. such as those claimed), as being suitable for the intended use gluten products (e.g. rice, noodles, or pasta).

As for the polysaccharide additive “enhancing loosening property of cooked rice” since the modified teaching of Lapre, illustrates a similar method as claimed, one of skill would have a reasonable expectation that similar properties would be achieved.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of coating starches with polysaccharides, as Lapre, to include the claimed intended use of “enhancing loosening property of cooked rice”, because the modified teaching of Lapre provides a similar method as claimed, and therefore one of skill with a reasonable expectation that similar properties and intended uses would be achieved.

With respect for claims 24-26, the modified teaching of Lapre, teaches in Takahashi, that the potato-derived water-soluble acidic polysaccharides have a starch content of about 7%, which encompasses the claim of: a starch content of no more than 60%, as in claim 24; a starch content of no more than 30%, as in claim 25; and a starch content of no more than 10%, as in claim 26. See paragraph 0024.

Response to Arguments

Applicant's arguments have been fully considered but they are moot, as noted, because applicant canceled all of the prior claims.

It is asserted that the reference of Lapre does not comprise soluble polysaccharides.

In response, the polysaccharides are taught to be “preferably at least essentially insoluble, or at least substantially insoluble, in boiling water” and therefore, the use of polysaccharides which are “at least essentially insoluble, or at least substantially insoluble”, reads on the polysaccharides comprising a portion which is inherently soluble.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia A. George whose telephone number is (571) 272-5955. The examiner can normally be reached on Mon. - Thurs. between 9:00 am and 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patricia A George
Examiner
Art Unit 1794

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